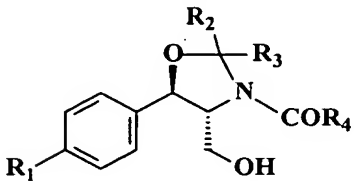
THE CLAIMS

What is claimed is:

1. A process of preparing an oxazolidine compound of Formula X:



wherein

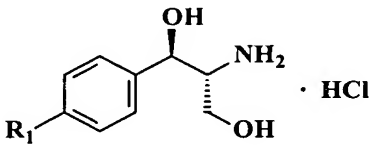
R_1 is a methylthio, methylsulfoxy, methylsulfonyl or nitro group;

R_2 is an alkyl, haloalkyl, cycloalkyl, alkenyl, alkynyl, alkoxy, aralkyl, aralkenyl, aryl or aromatic heterocyclic group;

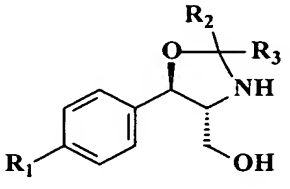
R_3 is a hydrogen, alkyl, haloalkyl, cycloalkyl, alkenyl, alkynyl, alkoxy, aralkyl, aralkenyl, aryl, or aromatic heterocyclic group; and

R_4 is a hydrogen, alkyl, haloalkyl, cycloalkyl, phenyl or phenylalkyl group, where the phenyl ring may be substituted by one or two halogen, alkyl, alkoxy or nitro groups, which process comprises:

reacting the compound of Formula VIII



with an agent in the presence of a first organic base and a first solvent to give the corresponding compound of Formula IX



and

reacting the compound IX with R_4COCl in the presence of a second organic base in a second solvent to produce the compound of Formula X.

2. The process according to claim 1, wherein the agent is acetone, 2-methoxypropene or 2,2-dimethoxypropane.

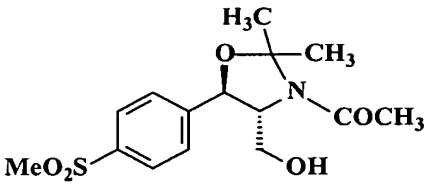
3. The process according to claim 2, wherein the agent is acetone.

4. The process according to claim 3, wherein the compound of Formula VIII is heated in eight to ten times by volume of acetone.

5. The process according to claim 1, wherein the first solvent is acetone, toluene, xylene, hexane or a mixture thereof and the second solvent is methylene chloride.

6. The process according to claim 1, wherein R_2, R_3 and R_4 all are alkyl groups.

7. The process according to claim 6, wherein the oxazolidine compound is a compound of Formula XIII:

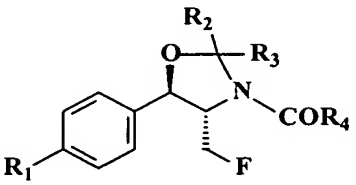


8. The process according to claim 1, wherein at least either the first or second organic base is an alkylamine.

9. The process according to claim 8, wherein the alkylamine is triethylamine.

10. The process according to claim 1, wherein the compound of Formula IX is obtained by reacting the compound of Formula VIII with acetone at a temperature of about 50°C to about 60°C in the presence of an alkylamine.

11. A process of preparing an oxazolidine compound of Formula XI:



wherein

R_1 is a methylthio, methylsulfoxy, methylsulfonyl or nitro group;

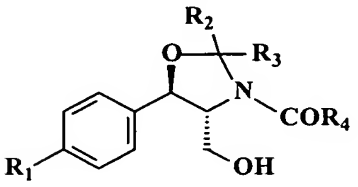
R_2 is an alkyl, haloalkyl, cycloalkyl, alkenyl, alkynyl, alkoxy, aralkyl, aralkenyl, aryl or aromatic heterocyclic group;

R_3 is a hydrogen, alkyl, haloalkyl, cycloalkyl, alkenyl, alkynyl, alkoxy, aralkyl, aralkenyl, aryl or aromatic heterocyclic group; and

R_4 is a hydrogen, alkyl, haloalkyl, cycloalkyl, phenyl or phenylalkyl group, where the phenyl ring may be substituted by one or two halogen, alkyl, alkoxy or nitro groups,

which process comprises:

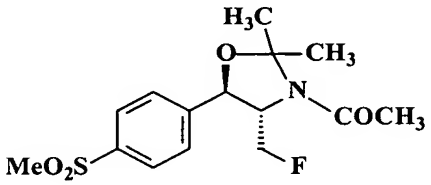
fluorinating the compound of Formula X



with a fluorinating agent in the presence of an organic solvent, to give the corresponding compound of Formula XI.

12. The process according to claim 11, wherein R_2, R_3 and R_4 all are alkyl groups.

13. The process according to claim 12, wherein the oxazolidine compound is a compound of Formula XIV:



14. The process according to claim 11, wherein the fluorinating agent is N-(2-chloro-1,1,2-trifluoroethyl) diethylamine, N-(2-chloro-1,1,2-trifluoroethyl) dimethylamine, N-(2-chloro-1,1,2-trifluoroethyl) dipropylamine, N-(2-chloro-1,1,2-trifluoroethyl) pyrrolidine, N-(2-chloro-1,1,2-trifluoroethyl) 2-methylpyrrolidine, N-(2-chloro-1,1,2-trifluoroethyl) 4-methylpiperazine, N-(2-chloro-1,1,2-trifluoroethyl) morpholine, N-(2-chloro-1,1,2-trifluoroethyl) piperidine, or N-(1,1,2,3,3,3-hexafluoropropyl) diethylamine.

15. The process according to claim 14, wherein the fluorinating agent is N-(1,1,2,3,3,3- hexafluoropropyl) diethylamine.

16. The process according to claim 15, wherein the molar ratio of N-(1,1,2,3,3,3-hexafluoropropyl) diethylamine to the compound of Formula X is between 1:1 and 3:1.

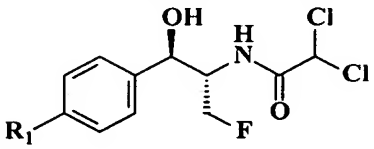
17. The process according to claim 16, wherein the molar ratio of N-(1,1,2,3,3,3-hexafluoropropyl) diethylamine to the compound of Formula X is about 2:1.

18. The process according to claim 11, wherein the fluorinating step is carried out at a temperature of about 80°C to about 110°C and at a pressure of at least about 60 psi.

19. The process according to claim 11, wherein the organic solvents is acetonitrile, ethyl acetate, methylene chloride, chloroform, chlorobenzene, or another chlorinated hydrocarbon.

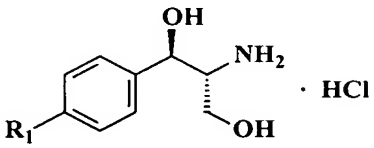
20. The process according to claim 19, wherein the organic solvent is methylene chloride.

21. A process of preparing a compound of Formula VII:

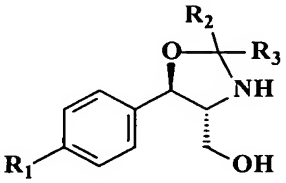


wherein R_1 is a methylthio, methylsulfoxy, methylsulfonyl or nitro group, the process comprising the steps of:

reacting the compound of Formula VIII



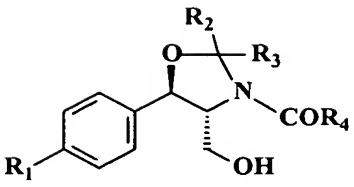
with an agent in the presence of a first organic base and a first organic solvent to produce a compound of Formula IX



wherein R_2 is an alkyl, haloalkyl, cycloalkyl, alkenyl, alkynyl, alkoxy, aralkyl, aralkenyl, aryl or aromatic heterocyclic group; and

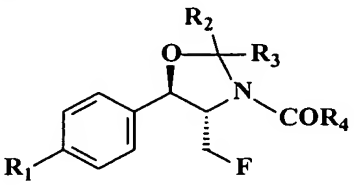
R_3 is a hydrogen, alkyl, haloalkyl, cycloalkyl, alkenyl, alkynyl, alkoxy, aralkyl, aralkenyl, aryl or aromatic heterocyclic group;

converting the compound of Formula IX to a compound of Formula X:



wherein R_4 is a hydrogen, alkyl, haloalkyl, cycloalkyl, phenyl or phenylalkyl group, where the phenyl ring may be substituted by one or two halogen, alkyl, alkoxy or nitro groups, by reacting the compound of Formula IX with R_4COCl in the presence of a second organic base in a second organic solvent to produce the compound of Formula X;

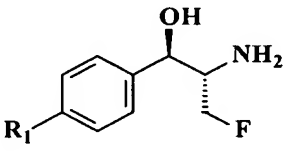
fluorinating the compound of Formula X with a fluorinating agent in the presence of a third organic solvent to obtain the compound of Formula XI



; and

further processing the compound of Formula XI to obtain the compound of Formula VII.

22. The process of claim 21, wherein the processing of the compound of Formula XI comprises hydrolyzing the compound of Formula XI with an acid to obtain the compound of Formula XII



and

N-acylating the compound of Formula XII with dichloroacetic acid or a reactive derivative thereof to obtain the compound of Formula VII.

23. The process according to claim 21, wherein the agent is acetone, 2-methoxypropene or 2,2-dimethoxypropane.

24. The process according to claim 23, wherein the agent is acetone.

25. The process according to claim 24, wherein the compound of Formula VIII is heated in about eight to ten times by volume of acetone.

26. The process according to claim 21, wherein the first organic solvent is acetone, toluene, xylene, hexane or a mixture thereof.

27. The process according to claim 21, wherein at least either the first or second organic base is an alkylamine.

28. The process according to claim 27, wherein the alkylamine is triethylamine.

29. The process according to claim 21, wherein in the compound of Formula IX is obtained by reacting the compound of Formula VIII with acetone at a temperature of about 50°C to about 60°C in the presence of an alkylamine.

30 The process according to claim 21, wherein the fluorinating agent is N-(2-chloro-1,1,2-trifluoroethyl) diethylamine, N-(2-chloro-1,1,2-trifluoroethyl) dimethylamine, N-(2-chloro-1,1,2-trifluoroethyl) dipropylamine, N-(2-chloro-1,1,2-trifluoroethyl) pyrrolidine, N-(2-chloro-1,1,2-trifluoroethyl) 2-methylpyrrolidine, N-(2-chloro-1,1,2-trifluoroethyl) 4-methylpiperazine, N-(2-chloro-1,1,2-trifluoroethyl) morpholine, N-(2-chloro-1,1,2-trifluoroethyl) piperidine, or N-(1,1,2,3,3,3-hexafluoropropyl) diethylamine.

31. The process according to Claim 30, wherein the fluorinating step of the compound of Formula X is carried out using (1,1,2,3,3,3-hexafluoropropyl) diethylamine.

32. The process according to claim 31, wherein the molar ratio of N-(1,1,2,3,3,3-hexafluoropropyl) diethylamine to the compound of Formula X is between 1:1 and 3:1.

33. The process according to claim 32, wherein the molar ratio of N-(1,1,2,3,3,3-hexafluoropropyl) diethylamine to the compound of Formula X is about 2:1.

34. The process according to claim 21, wherein the fluorinating step is carried out at a temperature of about 80°C to about 110°C and at a pressure of about at least 60 psi.

35. The process according to claim 21, wherein the second or third organic solvent is acetonitrile, ethyl acetate, methylene chloride, chloroform, chlorobenzene, or another chlorinated hydrocarbon.

36. The process according to claim 35, wherein the second or third organic solvent is methylene chloride.

37. The process according to claim 22, wherein the acid is an inorganic acid.

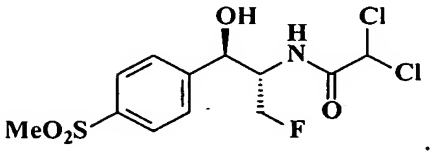
38. The process according to claim 37, wherein the acid is aqueous hydrochloric acid.

39. The process according to claim 38, wherein the hydrolyzing step is carried out by heating the compound of Formula XI with 6N aqueous hydrochloric acid at a temperature of about 90°C to about 100°C for about 30 minutes.

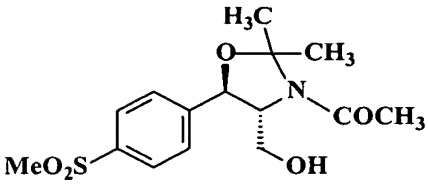
40. The process according to claim 21, wherein R_2, R_3 and R_4 are all alkyls.

41. The process according to claim 21, wherein R_2, R_3 and R_4 are all methyl groups.

42. The process according to claim 21, wherein the compound of Formula VII is Florfenicol of Formula I



43. A compound of Formula XIII



44. A compound of Formula XIV